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STATUS LYMPHATICUS.*

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IN 1905 the Society for the Study of Disease in Children devoted a sitting to the discussion of the causes of sudden death in children (10), and among other phenomena gave consideration to the subject of our discussion this afternoon. In the intervening nine years the literature upon status lymphaticus has grown to alarming proportions, and every year adds an increasing number of communications. But in spite of this fact I am afraid that our absolute knowledge of the condition remains almost as small as then, though I think that the limits of our knowledge are better defined and that there is less tendency to stray into somewhat vague speculation.

I must first recall to your recollection the facts which led up to the formulation of the conception of a constitutional disorder called "status lymphaticus." Away back in the seventeenth and eighteenth centuries our predecessors had recognised that there occurred deaths which could be attributed to the pressure of a large thymus gland

* The opening address in a discussion at the Provincial Meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine at Bournemouth on June the 6th, 1914.

upon the vital structures contained in the upper aperture of the thorax. It is probable that the earliest recorded cases were examples of malignant disease of the gland, but in the nineteenth century it was recognised that there was a group of cases of dyspnœa terminating with sudden and unexpected death in which the only anatomical morbid lesion was the presence of an abnormally large thymus. In 1850 Friedleben, after a detailed research into the anatomy of the gland, came to the conclusion that there was no such thing as thymic asthma. That this dogma, like most dogmatic statements on controverted questions, was exaggerated, is, I think, now quite clear; but it cleared the ground for the conception formulated by Paltauf in 1889 of a constitutional disorder manifested by a hypertrophy of all the lymphatic structures of the body including the thymus gland: a condition to which he gave the name of "status lymphaticus." The features upon which he laid stress were the enlargement of the thymus gland, the hypertrophy of the tonsils and the lymphatic tissues of the naso-pharynx, the enlargement of the lymphoid tissue at the root of the tongue, the hypertrophy of the Peyer's patches and solitary follicles of the intestine, the large spleen; and to these he added the hypoplasia of the aorta, a feature which has been seldom observed since. Such abnormalities he held to be the outward expression of a constitutional disease which rendered its possessors peculiarly liable to infection and to sudden failure of the vital functions.

Paltauf's hypothesis has had vigorous critics and valorous supporters; both, if I may venture my own opinion, undiscriminating and indiscreet. But we are to-day in a better position than in the discussion of 1905 as regards the knowledge of the normal anatomy of the thymus gland. Then it was commonly stated that the gland reached its maximum size in the last months of fœtal life and during the first two years of infancy; and that after this date it rapidly atrophied. Even now, however, it remains a disputed point what is a normal weight for the gland at any given period. In a paper which I wrote (11) in 1902 I gave reasons for believing that the normal weight during the period of infancy had been considerably exaggerated, and Dudgeon (2) in 1905 came independently to the same conclusion. We considered that any thymus gland which exceeded 10 to 12 grm. during the first two years of life must be considered abnormal. I must, however, add that some of the German authorities put the normal weight much higher, at 25 grm., and that one of the more recent text-books of anatomy in this country states that the gland at puberty may be merely remains or may weigh as

much as 40 grm. Morbid anatomical experience, however, at least in this country, does not agree with these statements, and it is exceptional to find a thymus gland of more than 10 grm. except in connection with the condition I am about to mention.

Friedleben in 1850 maintained: "Es gibt kein Asthma thymicum." It now, however, seems to be generally agreed that he made a mistake, and that there are cases of dyspnœa which are directly attributable to the pressure of the enlarged thymus. For example, Klose (6), writing in 1911, was able to bring forward nineteen cases in which the excision of the whole or a part of the thymus had relieved the dyspnœa; in another case the dyspnœa persisted, and in three others the operation was fatal. He came to the conclusion that the cause of such dyspnœa was pressure by the enlarged gland and that all such cases "belong to the surgeon." The American, Parker (8), writing in 1913, collected fifty cases in which operation had been performed for the relief of dyspnœa. The mortality of the operation was considerable (seventeen deaths, 33·3 per cent.), but the deaths were seldom to be attributed to the operation. It should, however, be noted that in thirteen of these seventeen cases there was infection either of the wound or of the lungs. Even if we take only the cases recorded since the beginning of 1910, nine out of twenty-three patients were dead within a month of the operation while of the recoveries one required a second operation six months after the first; the relief from the dyspnœa was generally gradual and not immediate, though in about half the cases the acute attacks of suffocation disappeared at once. My own experience is that these cases of so-called thymic dyspnœa are extremely rare. I have been on the look-out for such cases for many years, and I have asked many friends of greater experience than mine, but with one exception I have yet to meet with symptoms at all suggesting the condition. This case was that of a baby, aged 5 months, who had a history of making gurgling noises since birth and of becoming very blue when he cried. He had some inspiratory and expiratory stridor and some dilatation of the veins of the neck and cyanosis when he cried, but no recession of the chest walls and no bulging tumour in the episternal notch. On examination he had an area of impaired resonance over the manubrium sterni, and for a distance of about ½ in. on either side the dullness was continuous with the heart dullness. An X-ray picture showed an opaque shadow coincident with the dull area, such as might be caused by a bulky thymus gland. Intubation of the larynx did not relieve the stridor. Thymectomy was discussed, but before a decision was made a reddened area appeared above the inner end of the right

clavicle, and an abscess was opened, in connection presumably with the deep lymphatic glands, with complete relief of the dyspnœa. The cavity of the abscess extended backwards to the vertebræ, and the trachea was displaced to the left side.

My own opinion is that in many of these cases of dyspnœa the thymus is not responsible for the pressure, but that, as in this case, the real source is the enlargement of deep glands. And I must add that in the records of the fatal cases following operation there is no statement of the condition of the lymphatic apparatus elsewhere in the body; that is, there is no attempt to establish the diagnosis of lymphatism, while in several of these the tracheo-bronchial glands are described as necrotic.

But, whatever may be our opinion about these dyspnœic cases, there can be no doubt that pressure plays no part in the cases which I am next going to consider, the sudden deaths, whether in infants who have given no previous signs of disease, or in those who are suffering from some trivial disorder, or again, in patients who expire without warning under an anæsthetic. It is a common experience of the post-mortem room to make an examination of the body of a baby who has been found dead without any previous illness, and in the bulk of these the morbid anatomy is constant—an enlarged thymus, usually between 25 and 35 grm., bulky and thick, often covered with small petechial hæmorrhages, a hypertrophy of the Peyer's patches and of the solitary follicles of the intestine, and an enlargement of the mesenteric, bronchial and cervical glands. It has been maintained that such cases also are due to the pressure of the thymus upon the vital structures. The hypothesis takes various shapes, sometimes that the pressure is exercised on the trachea, and that this takes a flattened shape, but it has been shown that an elliptical shape is not uncommon in the normal child. Then, that the pressure is exercised on the great vessels, but there is no sign of engorgement of the organs such as would accompany such pressure, and often the heart is empty and firmly contracted. Lastly, that the pressure acts upon the vagi and inhibits the heart's action. I was some years ago an eye-witness of such a death. A boy, aged 13 months, "suddenly sat up, his eyes became fixed, he ceased to breathe, became very slightly blue, and then quite white, and fell back dead. The whole series of events occupied less than thirty seconds." Such a manner of death does not suggest pressure. Bellamy Gardner's experience (4) with a boy, aged 13 years, who was under chloroform, was very similar. The patient, just after the operation had been begun, "made a slight retching movement . . .

stopped breathing . . . a deep navy-blue coloration appeared on the forehead and temples . . . the lips and ears were at the same time almost normal in colour . . . From the moment of respiratory paralysis not one single natural muscular or respiratory movement took place." In both these cases the autopsy showed the presence of the classical signs of status lymphaticus, and the complete absence of any signs of obstruction to the respiratory passages, and, further, the absence of any signs of pressure upon the great veins of the neck. If pressure be the cause of death, it appears to me that it is inconceivable that the great veins and the sinuses of the brain should show no sign of dilatation and congestion. Before leaving these cases I must add that such "anæsthetic" deaths are, in a very large number of instances, due to the existence of this mysterious condition. Spilsbury (9), who has had an unusually wide experience, has stated that the majority of sudden deaths during anæsthesia which he has had to investigate were associated with the presence of status lymphaticus. Nor do they occur with chloroform alone. Of thirty such cases McCardie (7) found that in seventeen the anæsthetic was chloroform, in six ether alone was used, and in five others a mixture of ether and chloroform. Further, in two cases local anæsthesia had been employed, in one cocaine, in the other Schleich's infiltration method. Nor is the death due to the shock of the operation, for in more than one instance the operation has not been begun. Lastly, in several the patients had been safely anæsthetised, the operation had been completed, and the patient back in bed had recovered consciousness, and then when all seemed safe suddenly death had supervened. Such deaths are quite unlike the so-called "delayed chloroform poisoning," in which condition there is seldom any suddenness in the fatal issue, but profound collapse with vomiting and acetonæmia fill a more or less prolonged interval.

Besides these two well-recognised groups some writers have found evidence of status lymphaticus in sudden death occurring in the course of certain diseases which do not usually lead to a fatal issue. The most striking of these is the sudden death which occasionally occurs in the eczematous conditions of infants. Feer (3) in 1904 was able to collect thirteen cases of death during eczema, and in ten of these there was an enlarged thymus and hypertrophy of the lymphatic structures. He does not contend that all deaths in eczema are associated with this condition, since some are undoubtedly due to an acute infection. It is interesting in this connection to recall that Gardner's patient had suffered from obstinate eczema before his death.

Some authors have also maintained that a status lymphaticus is often found in men who have committed suicide, but this is certainly not a common experience.

Of other diseases in which it is common to find an enlarged thymus I will merely mention myasthenia gravis, a disease which sometimes ends in attacks of dyspnœa and respiratory failure, Addison's disease, and leukæmia. In these two last the enlargement of the gland is by no means common. A more important association is that with Graves's disease. Here it is rare for an autopsy to be performed without finding a considerable enlargement of the thymus. Capelle (1) found that of twenty-two cases of exophthalmic goitre dying under an anæsthetic twenty-one had enlarged thymus glands. Although the other signs of the lymphatic state are often not marked, it is probably to the co-existence of this condition that we must attribute the well-known danger of general anæsthesia in Graves's disease. At the same time I do not think that apart from anæsthesia sudden death is common in this affection.

The Origin of the Lymphatic State.

When we pass from the consideration of the manifestations of lymphatism to that of the origin of the condition we pass into a region of vague speculation where very little is known, and that little very inaccurately. In recent years Basch, and later Klose (6), have conducted a series of thymectomies on puppies, and though it can hardly be said that these experiments throw much light on the lymphatic state, they do at least widen our conception of the importance of the thymus gland and of its wide connections with the metabolism of the body, especially in the period up to puberty. Basch and Klose have found that when the thymus gland is extirpated in puppies quite early in life the animals grew more slowly than the control animals. Their muscles were more flabby, their bones were softer and more liable to bend and break, their intelligence was less, and after the fourth month they rapidly passed into coma and died. Microscopic examination of the bones showed the characteristic changes of rickets. Klose carried out elaborate examinations of the calcium excretion in these animals and showed that the tissues of the experimental animals were markedly deficient in lime salts. He believes that the thymus is chiefly engaged in hindering the formation of and in neutralising the excess of acids in the organism, and that its enucleation leads to an acid excess in the system. He states that some of the symptoms in the animals remind the observer

forcibly of the manifestations of tetany in young children. These observers and others have found that there is an intimate connection between the thymus and the testes, which tend to enlarge by the growth of the fibrous tissue in them after thymectomy. Miss Hewer (5) has lately obtained somewhat similar results in a series of rats fed upon fresh gland substance; the male rats showed retardation of sexual maturity and often degeneration of the testes. Other experimental work appears to indicate that there is a more or less intimate connection between the thymus and the other glands of internal secretion: the suprarenals, the thyroid, and possibly the pituitary. These deductions, however, rest at present on insufficient grounds.

The net result of these investigations is, I think, to widen our conception of the functions of the thymus, and incidentally of status lymphaticus. This condition is not merely a disorder of the thymus but a much more complicated disorder of the whole "ductless gland" system, and until we obtain a clearer conception of the inter-relations of these glands we shall not progress in our understanding of status lymphaticus.

Diagnosis and Treatment.

Meanwhile it is necessary to recognise the extreme importance of diagnosing the condition, since it so often leads to tragedy. The enlargement of the thymus is the most constant feature, and we must endeavour to discover its existence in all cases of children who are to undergo an operation, especially in those who are the subjects of lymphoid hyperplasia. The most valuable means at our disposal is certainly the discovery of an increased area of dullness over the manubrium sterni. The normal impairment is said to be a V-shaped area scarcely transgressing the margin of the bone, while, in enlargement of the gland this area passes for $\frac{1}{2}$ to $\frac{3}{4}$ in. to either side, and below joins the cardiac dullness. Next to this the X-ray is of some value, but I do not think will distinguish between a thymus and enlarged lymphatic glands in the anterior mediastinum. If with these physical signs there is a tendency to unexplained attacks of dyspnœa or to a persistently low vitality, as evidenced by subnormal temperatures and intolerance of exertion, I think that status lymphaticus should be diagnosed, and the child should not be exposed to an anæsthetic.

Dr. Leonard Williams (12), in the discussion on Gardner's paper, held that the status lymphaticus was, in reality, an expression of

disordered metabolism on the part of the thyroid gland, and that the administration of thyroid extract would avoid many of the accidents met with in the course of anæsthetising children. While I cannot personally feel that there are any good grounds for the indictment of the thyroid in this condition, I yet recognise that it is almost certainly a disorder of the "ductless gland" system, and therefore that it is legitimate to expect something from the employment of an extract which we know has a profound effect upon this system. I should myself be more inclined to use pituitrin, an extract which has the most extraordinary effect in obviating the results of shock; and to "shock" in a broad sense it appears to me that we may attribute the fatal results of the lymphatic state. Wherever I suspected the existence of the condition I should feel inclined to give an injection of this drug before administering an anæsthetic, and I should be glad to hear of the results of such administration on some of the children who are said to be the subjects of thymic asthma.

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THE VACCINE TREATMENT OF SCARLET FEVER.

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In an interesting paper by R. M. Smith (2) in the 'Boston Medical and Surgical Journal' arguments are quoted in support of the view that scarlet fever is caused by a streptococcus, and an account is given of work done in the prophylaxis of scarlet fever with streptococcic vaccine. The first work of which mention is found was done by Stickler in 1883. He injected himself with the blood of a scarlet fever patient, and in three days had an eruption like scarlet fever,

followed by desquamation. Then he injected the scales from a case of scarlet fever into healthy persons and got no reaction except a local hyperæmia, but if these individuals were subsequently injected with blood from a scarlet fever patient there was no rash nor desquamation.

The largest amount of work on this subject, however, has been done in Russia, where Gabritschewsky reports that encouraging results have been obtained by injecting children with prophylactic doses of streptococcic vaccine. He used a concentrated bouillon culture of streptococci isolated from a person ill with scarlet fever. The organisms were killed by heating to 60°C. and ·5 per cent. of carbolic acid added. Each c.c. of the culture contained 0·02 to 0·03 c.c. of sediment; of this, 0·02 c.c. equalled 0·005 grm. dried sediment. Two scales of dosage were employed: either 0·25 c.c. for children under two, 0·5 c.c. for those between two and ten, and 1 c.c. for subjects over ten, or 0·25 c.c. as minimum and 1 c.c. as maximum, an increase of 1· c.c. for each year of life. Three injections were given at intervals of seven to ten days, the dose being successively increased by one one-half or doubled. A reaction usually occurred, which varied in severity, and was generally milder after the second and third injections. As a rule there was some redness and tenderness at the site of injection; at times headache, malaise, and slight pyrexia occurred, and very occasionally a rash and sore throat developed. The records included one death in 50,000 cases, and the method, tested on this extensive scale, is said to have proved strikingly effective in controlling the prevalence of scarlet fever.

In America, Watters (4) treated twenty-one nurses with a polyvalent vaccine of streptococci isolated from the throats of scarlet fever patients. Three doses were given at weekly intervals and were doubled at each successive injection, the initial dose being 50 million. Of these twenty-one nurses, one contracted scarlet fever on exposure, whereas five out of fourteen untreated nurses were attacked.

I am not aware that the prevention of scarlet fever by means of vaccine has attracted much attention in this country as a practical issue. Vaccine, however, has been employed by several clinicians for the prevention and treatment of septic complications during the course of the disease and so far the results on the whole have not been encouraging. Caiger and Cuff (1) mention the use by one of them of a vaccine of scarlatinal streptococci in a few septic cases, but state that the results proved disappointing. Walker (3) treated

fifty cases with a stock vaccine of streptococci obtained from three cases of scarlet fever. Generally the initial dose was five or ten million, and was repeated at intervals of three or four days until the temperature reached the normal level. In mild cases of scarlet fever the vaccine had little effect on the temperature; only the severe and septic varieties of the disease were benefited. Weaver and Boughton (5) treated eighty-eight cases of the disease before the onset of complications with a streptococcic vaccine sterilised by suspension in 25 per cent. galactose solution. The organisms were obtained from purulent lesions occurring in scarlet fever cases, and a dose of 200 million was given. No beneficial effect was observed in these cases, but in about sixteen other cases treated after the onset of complications it was thought that recovery was hastened.

At Plaistow Hospital a hundred cases admitted as scarlet fever during the first four months of 1913 were treated with doses of commercial stock vaccines of streptococci (50 million) and staphylococci (1000 million) repeated in seven days. No reaction whatever occurred in any of the cases. The object of the treatment was to prevent the onset of septic complications during the course of the disease, the first dose being given within two days of admission. Only children under ten years of age were treated, and all were suffering from a moderate or mild attack. As a control these cases are compared with another similar series of a hundred cases which were admitted during the first four months of the present year and did not receive vaccine treatment. The following table shows the average number of weeks each series was in hospital and also the number of cases that suffered from the ordinary complications of scarlet fever. It will be seen that the difference between these two series is very small and might be found between any similar series of hospital cases. From my experience of scarlet fever at Plaistow Hospital I do not consider that the commercial vaccine had any appreciable effect on the cases treated.

	Vaccine cases.	Non-vaccine cases.
Average time in hospital	9 weeks	9½ weeks
Otorrhœa	6 cases	11 cases
Rhinorrhœa	21 ,,	19 ,,
Nephritis	0 ,,	1 case
Second attack	2 ,,	0 cases
Post-scarlatinal diphtheria	3 ,,	4 ,,

Five cases of septic scarlet fever were treated in the acute stage with autogenous streptococcic vaccine, the organisms, in one case,

being cultivated from the nose and, in the others, from the throat. An initial dose of ten million was given and this was doubled at intervals of five days until the temperature dropped to the normal level. All recovered, but three developed otitis. It could not be said that the vaccine had any definite effect in any of the cases.

Autogenous vaccine was also used in the treatment of nasal and ear discharges. In most cases no attempt was made to isolate all the bacteria. The cultures were made on ordinary agar and incubated for twenty-four hours. The organisms were then suspended in normal saline to which ·5 per cent. carbolic acid had been added, and afterwards heated in a bath at 60° C. for an hour. An initial dose of 100 million was given and this was repeated at intervals of five days, the number of organisms being increased at each successive injection until a maximum of 1600 million was reached. Out of twenty-eight cases of nasal discharge treated, twenty-three were cured, but five showed no improvement after eight doses. In two of the latter cases numerous diphtheroid bacilli were present in the discharge, which was slight in amount but persisted for several weeks. Among the successful cases the following table shows the number of doses given :

2 doses . .	5 cases	5 doses . .	3 cases
3 ,, . .	4 ,,	6 ,, . .	2 ,,
4 ,, . .	7 ,,	7 ,, . .	2 ,,

In the case of one patient, aged 2 years, who had a profuse nasal discharge which only gave a few colonies of *Staphylococcus aureus* when cultured on agar, Dr. Rajchman isolated a small gram negative diplococcus on calf serum. A vaccine was made with this diplococcus and after three doses of 20, 30, and 40 million respectively the discharge ceased.

With regard to ear discharge fourteen cases were treated, of which eight recovered while six remained chronic. In the unsuccessful cases the infection was very mixed, diphtheroid organisms being present in the discharge in three cases and bacilli of the *coli* group in two cases. The following list shows the number of doses given to the successful cases :

1 dose . .	2 cases	4 doses . .	2 cases
2 doses . .	1 case	5 ,, . .	1 case
3 ,, . .	2 cases		

The success of the vaccine treatment of nasal and ear discharges is difficult to prove, but from my experience at Plaistow Hospital I am led to the conclusion that with regard to nasal discharges a

cure is obtained more quickly with vaccine treatment than with ordinary methods. The same statement, however, cannot be made in the case of ear discharges. Its failure in this condition may be due to the number of different organisms often present in the discharge.

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COMPLETE OCCLUSION OF THE TRACHEA DUE TO INJURY TO THE CRICOID CARTILAGE AFTER INTUBATION AND TRACHEOTOMY. OPERATION AND RECOVERY.

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A boy, aged $2\frac{6}{12}$ years, was admitted to the Brook Hospital on January the 15th, 1913, at 3 a.m. Certified diphtheria.

History.—No previous illness.

January the 13th: Croupy cough.

January the 14th: Sore throat, glands of neck swollen.

Admission note.—Patches of membrane on both tonsils, laryngeal stridor, slight recession, colour and pulse good.

January the 15th, 7 a.m.: Deep recession, cyanosis, pulse rapid, small, intubated, immediate relief.

January the 18th: Tube out at 11·30 a.m. Child comfortable 4 p.m. Sudden attack of dyspnœa. Re-intubated.

Between January the 18th and February the 1st, the child was intubated three times for sudden bad attacks of dyspnœa, on one occasion after an interval of four days. There was no difficulty experienced and nothing abnormal noted.

February the 1st, 2 a.m.: Intubation tube coughed up. Urgent dyspnœa. Tracheotomy. Artificial respiration was done for fifteen minutes before the child came round. As the tracheotomy had to be done in a hurry, and the patient was a child with a short, fat neck, the cricoid was cut through.

Varying attempts were made to get rid of the tracheotomy tube, but it was early noted that the child made no attempt to breathe by

mouth or nose, and blocking of the tracheotomy wound caused almost immediate signs of suffocation.

February the 23rd: Intubation tried but smallest size tube could not be passed. A very distinct and definite obstruction to the passage was noted and further measures were determined on. Unfortunately at this point the child developed a severe attack of chicken-pox and the further treatment had to be deferred.

April the 2nd: Child free from varicella.

Chloroform was given and a low tracheotomy done. Just as I proceeded to open up the old tracheotomy wound, however, the child showed signs of collapse, and it was considered advisable to postpone further operation that day.

April the 5th: Trachea laid bare to-day and opened at old tracheotomy wound. A dense cartilaginous mass was found at the level of the cricoid completely closing the lumen of the trachea. This mass, which appeared to be partly collapsed cricoid cartilage and partly new growth, was divided by two cross incisions and a portion was removed from the centre.

The external wound was then stitched up and the child intubated, the tracheotomy tube being left in. The after-history may be summarised as follows:

April the 11th: Tracheotomy tube removed, child breathes freely and is comfortable with intubation tube.

April the 18th: Intubation tube coughed up. Sudden spasm of dyspnœa. Tracheotomy tube had to be replaced.

From April the 18th to June the 19th the child had a perforated tracheotomy tube in as well as an intubation tube. The tracheotomy tube was kept in during that time, as it was found that immediately the intubation tube was coughed up or removed to be cleaned the child became very distressed and cyanosed.

Both tubes were changed every third day during this period, and the external opening of the tracheotomy tube was kept plugged except when the intubation tube was out.

On June the 18th the tracheotomy tube was dispensed with and on June the 21st the intubation tube was also removed.

On June the 23rd the child was re-intubated after an interval of two days, during fourteen hours of which the child gradually became distressed.

The intubation tube was only left in then for twenty-four hours.

Thereafter the case is merely a record of repeated intubation, the intervals between each intubation gradually becoming longer until the tube was finally dispensed with on November the 20th.

During this period of repeated re-intubation it was noted that the child's voice gradually increased in strength and volume. After the final removal of the tube the voice became gradually clearer, though it was still somewhat husky at the date of discharge.

The discharge note reads: January the 10th, 1914. "Child well and strong. Heart-sounds clear, regular. Voice slightly husky but strong. Has occasional attacks of stridor when excited, but not sufficient to cause any anxiety."

The child was seen again in June, 1914 (*i. e.* eight months after the last re-intubation). He was then very well and strong. His parents reported that he had had a few bad attacks of dyspnœa shortly after his return, but that they thought these had been brought on by excitement or temper. Recently he has had no attacks of stridor and his voice is clearer and stronger.

The interest of this case lies in the complete occlusion of the trachea, due probably to two causes.

It is practically certain that some injury was done to the cricoid cartilage and surrounding tissues by the intubation tube either at the primary intubation or the first re-intubation. There was, as a result, probably some destruction of the cartilage, which would account for the sudden urgent dyspnœa requiring immediate tracheotomy on February the 1st. There was further the fact that the cricoid cartilage was injured when the tracheotomy was done. The case was then so urgent that the operator had not time to consider anything beyond the immediate opening of the trachea.

The complete occlusion of the trachea subsequently is somewhat unusual but is not irremediable.*

The use of the intubation tube in the first instance after the operation was purely mechanical to prevent the collapse of the trachea, due to extensive scan tissue, and also to keep the stricture patent.

In the later stages the tube acted as a dilator of the resultant stricture.

So far as could be judged the stricture was annular but with the most prominent part on the back wall of the trachea, as the tube had to be tilted slightly backwards to enable it to pass the obstruction.

From June the 23rd onwards the intubation tube was never left in longer than eighteen hours on any occasion to avoid any risk of a pressure ulcer.

The intubation tubes employed during the time that both the

* Barlow, H. W. L., "Some Recent Intubation Statistics," 'M. A. B. Ann. Report Suppl.,' 1904, pp. 326 and 327.

tracheotomy tube and the intubation tube were in simultaneous use were of the Bayeux pattern. These, being short, kept clear of the tracheotomy tube. After the tracheotomy tube was dispensed with, the O'Dwyer pattern (vulcanite tubes) was used, as these, I consider, are always more satisfactory in actual use than the Bayeux pattern.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Provincial Meeting at the Royal Victoria Hospital, Bournemouth, June the 6th, 1914.

The President, Dr. Leonard G. Guthrie, *in the Chair.*

Siamese Twins.—Dr. A. C. Grey-Edwards.—The twins, which were delivered by version, were attached to each other by the sides of the head and were well-developed. The union was a bony one and the brains were separate. One twin lived twelve hours and the other eighteen.

Wound of Ciliary Body with threatening Sympathetic Ophthalmitis.—Mr. E. E. Maddox reported a case in which the eye had been pierced with a broken cane. Cure was effected by thermo-cautery and a flap drawn over by super-corneal sutures.

Case of Tumour for Diagnosis.—Dr. F. C. Bottomley showed a child, aged 4 years, who had had flaccid palsy of the lower limbs and incontinence of urine and fæces for eighteen months. Wassermann's reaction was negative. X-rays showed that a mass of bone was present.

Paralysis of Cervical Sympathetic.—Mr. Harold Burrows showed two cases in which labour had been difficult and instruments had been used. One was a woman and the other a child, aged 14 months. Both had ptosis, enophthalmos, and contraction of the left pupil.

Congenital Dislocation of Right Humerus.—Mr. Burrows.—The child, now aged 11 years, showed considerable limitation of movement with wasting of the shoulder muscles and marked inward rotation of the arm.

Congenital Dislocation of Right Radius.—Mr. Burrows.—Birth was by breech presentation and labour was difficult. This abnormality was observed shortly after birth. The child was now aged 7 years.

Case of Tuberculosis cured by Trypsin.—Dr. E. Cortin showed a child, aged 4 years, who had been cured of generalised tuberculous abscesses by injections of trypsin into the surrounding healthy tissue.

Case of Pseudo-Hypertrophic Paralysis.—Dr. J. T. Leon showed a boy, aged 8 years, with marked wasting of the lower part of the pectoral and

latissimus dorsi and hypertrophy of the calf-muscles and deltoid. For twelve months he had been unable to walk any distance and occasionally fell down. His brother, aged 4½ years, had a similar gait.

Case of Asthma.—Dr. W. J. Midelton showed a child, aged 5 years, whose father was rheumatic and whose mother had suffered from asthma all her life. The asthma in the child had followed double pneumonia three years previously and had occurred periodically since.

Mongolism with Alopecia.—Dr. W. J. Midelton showed a case, aged 5 years, the last of five children. The alopecia had improved under croton oil and cantharides locally and thyroid extract internally.

Discussion on Status Lymphaticus.—(*vide* p. 465).

Abstracts from Current Literature.

Medicine.

Dentition in children (*'Arch. de Méd. des Enf.,'* 1914, xvii, *p.* 335).—**J. Comby,** like Feer (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 226), denies the existence of diseases of dentition. Fever, diarrhœa, bronchitis, convulsions, meningitis, and dermatoses attributed to dentition, are always due to some other cause. J. D. Rolleston.

The origin of purulent parotitis in childhood (*'Jahrb. f. Kinderheilk.,'* 1914, lxxix, *p.* 574).—**E. Handrick** records four cases. The first was a fatal case due to ascending infection of the duct in a hand-fed female child, aged 6 days, following thrush. The other three were in children aged 13, 16, and 18 months respectively, and were secondary to otitis media. All three recovered after incision. The staphylococcus was the pyogenic organism found in all the four cases (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 227, and 1913, x, *p.* 465). J. D. Rolleston.

Spasmodic stricture of the œsophagus in a child, aged 16 months (*'Rev. hebd. de Laryng.,'* 1914, i, *p.* 380).—**Larozière** records a case in which spasm of the œsophagus caused by swallowing a button persisted twenty-five days after its expulsion and yielded to progressive dilatation by bougies. J. D. Rolleston.

A neurosis of stomach and muscles of deglutition (*'Am. Journ. Dis. Child.,'* 1914, vii, *p.* 315).—**A. A. Howell** records a case of a curious nervous disorder in a boy, aged 8 years. He was subject to attacks of what was thought to be "water-brash." In an attack the mouth would be opened, and the tongue drawn tightly backward and upward towards the roof of the mouth, so obstructing respiration. Saliva would flow freely from the mouth, and noises resembling those of vomiting were emitted. The attack usually ended when cyanosis was produced. A sudden inspiration drew saliva into the larynx, setting up coughing and often vomiting. The attacks occurred as often as every ten minutes during night-time and seriously

impaired the child's health. Treatment at home was quite unsuccessful, but removal to hospital produced a prompt cure. REGINALD MILLER.

Neurotic vomiting in an infant (*'Am. Journ. Dis. Child.,'* 1914, VII, *p.* 48).—**W. B. McClure** reports a case of vomiting with head-rolling in an infant, aged 3½ months. The vomiting first began when weaning was attempted. It was preceded by chewing movements of the mouth, and appeared similar to the process of rumination, except that the food was not re-swallowed. Vomiting occurred only with fluid food, and under a diet of very thick porridge made with farina and milk the symptom ceased.
REGINALD MILLER.

Periodical vomiting with acetonæmia (*'Jahrb. f. Kinderheilk.,'* 1914, LXXX, *p.* 1).—**G. Hilliger.**—The children affected are usually feeble and easily excited, of neuropathic diathesis, between the ages of three and twelve years, and of good social standing. The vomiting comes on suddenly, the child becomes peevish, the face pale, headache severe, and exhaustion marked. The condition lasts from twenty-four to forty-eight hours. The pulse remains low, but quickened, the appetite is lessened, and thirst marked; the temperature is not elevated, frequently lowered; the stools are somewhat solid. Acetone is marked in the breath and urine. The chief element in the treatment is the addition of carbohydrates to the food, and this may be given by means of enemata as of grape-sugar or infusion of an isotonic solution of grape-sugar. F. R. B. ATKINSON.

Medical *versus* surgical treatment of pyloric stenosis in infancy (*'Journ. Amer. Med. Assoc.,'* 1914, LXII, *p.* 2014).—**L. E. Holt** is of opinion that a temporary pyloric spasm undoubtedly occurs in many conditions, as in the projectile vomiting of cerebral disease, but that definite, persistent spasm of the pylorus without hypertrophy has yet to be proved. The medical risks in connection with these cases are: (1) There may be death from acute inanition; this in the most acute cases occurs quite rapidly. (2) There is the danger of marasmus or slow inanition from the prolonged duration of the symptoms. While this risk is not so great in private practice, it exists, and in hospital practice and also among patients in poor surroundings it is very serious. There are considerable risks in waiting day after day and sometimes week after week when a child is barely holding his weight or losing but 1 or 2 oz. a week. The physician frequently does not realise how near the danger line he is. Especially is this likely to be the case if the vomiting has become infrequent and fæcal stools are present. To allow the weight to fall gradually from eight pounds to seven, six, or even lower, is to take great chances; and although possibly the majority of the patients may recover, every now and then an unexpected death occurs without warning. (3) There is the risk of intercurrent disease developing while a child is in a greatly enfeebled condition. This is a very important consideration in a hospital where treatment must usually be continued from six to ten weeks, and it has some weight even in private practice. (4) There is the risk of sudden death, which may come without any assignable cause. It has happened that children who seemed to be doing fairly well have collapsed suddenly and died in a few hours, the necropsy giving no explanation. This has occurred when the food taken seemed adequate so far as its caloric value was concerned, when the weight was stationary or showed only an insignificant loss and when the vomiting had practically ceased. At

present the evidence is that patients who get well without operation recover completely. The surgical risks in operations for pyloric stenosis are partly essential and partly accidental. The essential risks are those of shock, of non-union because of the child's poor nutrition, and the danger of exhaustion owing to the fact that the difficulties of feeding have not been altogether removed by the operation. Of much greater importance are the accidental risks, largely due to faulty technique; these are, of course, greatly lessened by experience on the part of the operator. Then there are the risks of hæmorrhage, of leakage, of obstruction, of infection and other accidents which may follow any abdominal operation. With an operator experienced in these cases and a patient in fair condition, the operative risk is much less than one would anticipate. It is a constant surprise to see in these patients how small is the amount of shock of an abdominal operation which rarely lasts less than forty or forty-five minutes. The younger the infants the less the shock appears to be. In private practice, if the best environment, good nursing and proper medical attention can be commanded, the risks of the medical treatment are small and many patients will recover without operation. But there will always be a certain number of patients for whom surgical intervention will be required. If the symptoms are severe, early operation offers more chances of recovery. Even if the surgical risks are considerable they are short, while the medical risks are prolonged and the dangers multiply with the duration of the symptoms. An early diagnosis adds much to the chances of success by any method of treatment. In some cases the symptoms have lasted so long and the condition is so critical in consequence of the rapid loss in weight that immediate operation should be advised as offering the only chance of recovery. Under other circumstances every child should have the benefit of a fair trial with medical treatment. The duration of this in hospital practice will depend on the conditions present. If the symptoms are severe a day or two may suffice; if less acute, a delay of a week or ten days may be permitted. Operation should be done not because a case is classed as spasmodic or as hypertrophic, but because mechanical obstruction of a dangerous degree exists, whatever its suspected nature. The indications for operative interference are: (1) no diminution of the vomiting or the gastric peristalsis by stomach washing and diet; (2) a steady loss of weight of from 1 to 2 oz. a day; (3) marked gastric retention, and (4) absence of fæcal stools. The presence of a tumour is not essential. The author's early experience led him strongly to favour the medical treatment of these cases. Increased experience, however, has shown him that the average case medically treated, unless it shows improvement almost at once, is likely to run a very prolonged course even though the child may ultimately recover. From six to twelve weeks of continuous treatment has usually been found necessary. This is in marked contrast to the rapid improvement which has taken place in all the children who have recovered after operation. The post-operative treatment is very important. Emphasis should be laid on four points: hypodermoclysis, feeding, castor oil and posture. Hypodermoclysis is useful immediately before or after operation as a means of introducing water into the body. Normal saline solution with 4 per cent. dextrose is used; of this from 100 to 200 c.c. are slowly introduced either between the shoulders or into the abdominal walls. In feeding, breast-milk is indispensable. Food should be given as soon as the child has fairly recovered from his anæsthetic, or about four hours after operation, giving two teaspoonfuls of breast-milk every two hours, alternating this with two teaspoonfuls of boiled water. On the following day the

interval is made three hours, and the milk and water are each increased to half an ounce. At the end of forty-eight hours, one ounce of breast-milk is given every three hours alternating with one ounce of water. By the end of a week the child is usually taking from two to three ounces of pumped breast-milk every three hours alternating with boiled water. By the tenth or twelfth day in most cases the child is put to the breast, but the amount of milk allowed is limited for the next week or two. A teaspoonful of castor oil is administered at the end of thirty-six hours and is usually followed by free evacuation from the bowels, which in many cases have not been freely moved up to that time. The child's bed is inclined at an angle of about 135 degrees or more, the head being raised. This posture facilitates the expulsion of gas from the stomach and greatly diminishes the chances of vomiting. The child is usually kept in this position for four or five days. Whether in a given case we shall decide in favour of operation or medical treatment will then depend largely on the severity of the symptoms and the conditions under which the child is seen. To subject every infant with pyloric stenosis to so serious an operation as laparotomy for a condition in which at a low estimate 50 per cent. recover without it seems hardly justifiable. It is a mistake to turn every case over to the surgeon as soon as the diagnosis is made, as some would have us do. On the other hand, the position that "operation is never under any circumstances justified" in these cases is untenable. The medical treatment for patients not operated on consists in careful feeding and stomach-washing. The gastric lavage should be practised twice a day; the water should be used warmer than usual, that is up to 112° F. If it can be secured, breast-milk is the preferable food, but one not rich in fat is essential. The common practice of weaning as soon as symptoms develop is most unwise. In default of breast-milk a modified milk mixture low in fat should be employed. With respect to quantities and intervals of feeding, cases respond differently. Usually 1 to 3 oz. are given at three- or four-hour intervals, with water in small quantities between the feedings. There are, however, some children who seem to do better on much smaller quantities, that is, $\frac{1}{2}$ oz. every hour, especially if the food is breast-milk. In greatly prostrated patients hypodermoclysis may be used twice a day. Rectal feeding is little assistance except for a very short time. Drugs are of little or no value, nor are local applications of heat over the epigastrium as advised by many. Aspiration of the stomach to determine the degree and rate of emptying is of much assistance in deciding the frequency with which these children should be fed and the amount of food offered at one time. Its value is not appreciated.

T. R. Whipham.

Acute enteritis and hemiplegia (*'Arch de Méd. des Enf.,'* 1914, xvii, *p.* 445).—**Carretier** records a case in a female infant, aged 20 months, in whom right hemiplegia, preceded by convulsions, strabismus and coma, followed an attack of muco-membranous enteritis. Recovery took place after three months. The hemiplegia was attributed to encephalitis.

J. D. Rolleston.

Röntgen pictures of the lower bowel in infants (*'Post-Graduate,'* 1914, xxix, *p.* 497).—**H. D. Chapin** finds that the whole intestine can be reached without force, and that it is impossible to pass a high tube as it passes into the root of the sigmoid flexor and then turns round.

F. R. B. Atkinson.

The clinical picture of bacillary dysentery in infants and young children (*'Monatsschr. f. Kinderheilk.,'* 1914, XIII, *p.* 39).—**K. Blühdorn. Bacteriological findings in bacillary dysentery in infants and children** (*'Ibid.,'* *p.* 51).—**R. Schild.**—Blühdorn describes cases of the disease and considers the symptoms, prognosis and treatment. Schild finds that in a large number of cases bacilli similar to the pseudo-dysenteric bacilli are found; in other cases bacilli not to be identified with any of the known species of pseudo-dysenteric bacilli were seen.

F. R. B. Atkinson.

Intestinal hæmorrhage a rare complication of croupous pneumonia (*'Gazz. med. ital.,'* 1914, LXV, *p.* 241).—**S. Riva-Rocci** reports the case of a child, aged 10 years, admitted with a croupous pneumonia of the right upper lobe and with unequivocal symptoms. Collapse and pallor occurred on the fourth day, with copious evacuation of tarry stools. Improvement in the grave general condition took place almost immediately and a good recovery was made. The explanation of the case was not clear—either the general infection had modified the condition of the blood or had produced a mechanical condition favourable to rupture of a vessel.

Vincent Dickinson.

Surgery.

Congenital pyloric stenosis (*'Journ. Amer. Med. Assoc.,'* 1914, LXII, *p.* 353).—**H. M. Richter** reports a series of twenty-two cases of pyloric stenosis in infancy in all of which he operated with three "operative deaths," and one death subsequent to operation which apparently was not due either to the operation or to the original disease. Of the twenty-two cases nineteen were of the type described as hypertrophic pyloric stenosis and three of the type known as spasmodic. In all of the nineteen a definite tumour was demonstrated at operation, and in eighteen it was palpable beforehand through the abdominal wall. In none of the cases was there any accompanying congenital malformation, though in one a particularly short mesocolon made it impossible to do a retrocolic gastro-jejunostomy. Fifteen of the patients were males and all were the first-born of their parents except one, and in this case the first-born probably had the same condition. The author emphasises the fact that it is particularly important that the Röntgen ray as a diagnostic measure be limited to determining the rate of emptying the stomach, not the patency of the pylorus. To exclude a diagnosis of hypertrophic stenosis on the basis of the passage of bismuth is sure to lead to serious error, and two cases are quoted in which operation was advised against on these grounds; in both the diagnosis was confirmed later, in one by necropsy and in the other at the delayed operation, which failed to save the baby. Of the author's twenty-two operations nineteen were typical posterior gastro-enterostomies with two deaths. In two cases a submucous pyloroplasty was performed and in one a divulsion of the pylorus. These three cases died, one as the result of the child's general condition, operation having been delayed for too long, and two as the result of faulty technique. Of the nineteen patients who survived operation one died from vomiting and diarrhœa after an illness of six days. In two the abdomen had to be reopened, one for acute obstruction owing to adhesions eight weeks after the primary operation and one for a volvulus which was relieved. No post-operative sequelæ occurred in any of the last fourteen cases. The author's

first case occurred five years ago and all of the eighteen living patients are still under observation. There has been no vomiting or other intestinal disturbance since their discharge from hospital. T. R. Whipham.

Pyloric obstruction in infants (*'Journ. Amer. Med. Assoc.,'* 1914, lxii, *p.* 2019).—**W. A. Downes** reports a series of 22 cases in which operation was undertaken for congenital pyloric obstruction. Of the 22 patients, 17 were males and 5 females; 18 were breast-fed entirely; 2 part breast-fed and part bottle-fed, and 2 bottle-fed; in 14 cases the patient was the first baby; in 4, the second; in 2, the third, and in 2, the fourth. Posterior gastro-jejunostomy was performed in 21 cases and the Weber operation of partial pyloroplasty in one case. Fifteen cases recovered from the effects of the operation, but 2 died subsequently: 1 from diphtheria and 1 from gastro-enteritis 16 days after operation. Of the 7 fatal cases no cause for death could be found in 4, 1 showed no evidence of repair, and 2 succumbed as the result of faulty technique: 1 from hæmorrhage due to a catgut suture having been passed through the round ligament of the liver, and the other from general peritonitis from leakage. In every case a pyloric tumour was found. The stomachs were thickened and somewhat œdematous and about half of them were dilated. The author is of opinion that ether should be the anæsthetic used. The after-care of the patient is extremely important, and much depends on the judicious use of stimulants in the form of brandy, atropine and caffeine, and also the proper use of fluids by hypodermoclysis and the Murphy drip. Feeding should be started as soon as possible after operation; small quantities of water alternating with diluted breast-milk were given hourly, beginning as early as the second or third hour in several cases. The amount should be increased gradually, and if it is well borne the child may be put back to the breast in forty-eight hours. It is important to elevate the head of the bed just as soon as reaction is well established, as this facilitates the escape of gas and greatly lessens the tendency to vomit. A colon irrigation should be given in twenty-four hours, or sooner if there is much distension. The first fæcal stool usually occurs from twenty-four to forty-eight hours after operation; if not by this time, from one to two teaspoonfuls of castor oil should be administered. The writer believes that operation is indicated in every case of hypertrophic stenosis as soon as the diagnosis is made. Should depression or early evidence of shock be present immediate operation is demanded. T. R. Whipham.

Hypertrophic stenosis of the pylorus in infants (*'Thèses de Paris,'* 1913–1914, *No.* 372).—**E. P. A. Lefèvre.**—The thesis contains brief histories of twenty-four cases published in France, including an original one in a male infant, in whom the symptoms first appeared six days after birth. X-rays showed enormous gastric dilatation and an impermeable pylorus. Medical treatment was unsuccessful and a submucous pyloroplasty was performed when the child was forty-two days old. Death took place four hours after the operation. The necropsy showed the characteristic muscular hypertrophy. Histologically no inflammatory lesions were found.
J. D. Rolleston.

Congenital occlusion of the small intestine (*'Thèses de Paris,'* 1913–1914, *No.* 401).—**H. Monnier.**—Congenital stenosis of the small intestine in the new-born is rare. It must be diagnosed from imperforate anus or acute peritonitis. It is probably due to a fœtal infection localised either in

the intestine, the vessels or the peritoneum. Immediate surgical treatment is required, if possible entero-anastomosis, or at least enterostomy. The prognosis is almost always fatal, only one case, reported by Foekens, having recovered. The thesis contains the histories of thirty-four cases, including the following original one. A male infant, aged 2 days, was brought to hospital for continual vomiting and because he had not passed meconium or fæces since birth. Laparotomy was performed, and the small intestine was found to consist of an upper and much dilated portion and lower and atrophied portion. The intestinal coils were bound together by bands. Death took place four hours after the operation. Post-mortem the occlusion was found in the jejunum. J. D. Rolleston.

Resection of the cæcum and a portion of the small intestine (*'L'Echo Méd. du Nord,'* 1914, xviii, *p.* 126).—**Bertin** removed 40 c.cm. of small intestine and the cæcum from a child, aged 11 years. Eventration of the mass had occurred as a result of an ulceration of the abdominal wall originating from a large fistulous abscess connected with Pott's disease. The child died six days after from tuberculous meningitis, without any peritoneal infection. F. R. B. Atkinson.

Umbilical sinus resulting from a pin in the appendix (*'Austral. Med. Journ.,'* 1914, iii, *p.* 1567).—**R. M. Downes.**—The patient was a girl, aged $3\frac{1}{2}$ years. The pin may possibly have been introduced into an urachal cyst, but the author considers it more probable that it had been swallowed and passed into the appendix. F. R. B. Atkinson.

Diseases connected with Meckel's diverticulum (*'Journ. Amer. Med. Assoc.,'* 1914, lxii, *p.* 1624).—**J. P. C. Griffith,** as a text for a *résumé* of the affections of Meckel's diverticulum, records the case of a male infant, aged 19 months, who some nine months previously was said to have suffered from "auto-intoxication" and "scurvy." Three months previously he began to pass blood in the stools and a little later had temporary suppression of urine and oliguria. Attacks of paroxysmal abdominal pain and flatulence occurred and occasionally there was vomiting. Constipation was troublesome and the patient became very anæmic and weak. Some intestinal ulceration was suspected and the question of laparotomy was discussed, but it was not decided upon owing to the uncertainty of the diagnosis and the weak condition of the patient. Gelatine and small doses of laudanum were given by the mouth and horse-serum was injected with the idea of controlling the hæmorrhage. The blood-count showed a secondary anæmia, but no leucocytosis; the percentage of polymorphonuclears, however, was high. After a slight improvement the child relapsed, having a recurrence of the melæna and very severe abdominal pain. The temperature showed a moderate irregular fever and the child died in a state of exhaustion. Post-mortem a localised peritonitis was found just below the umbilicus, and between the intestinal coils there was a small abscess in the centre of which was a Meckel's diverticulum. Its walls were thick and chronically inflamed and at the tip was an ulcer of the mucosa with a purulent exudate in the corresponding serous surface. The remainder of the intestine including the appendix appeared normal. The mesenteric glands were enlarged, the liver was fatty, and the kidneys showed an acute diffuse nephritis.

T. R. Whipham.

A case of acute chylous ascites (non-fatty, pseudo-chylous, lactescent, or milky type) in a boy, aged 8 years (*'Am. Journ. Dis. Child.,'* 1914, VIII, *p.* 50).—**F. Huber** and **H. M. Silver** divide chylous effusions into (*a*) true chylous due to the presence of chyle, (*b*) chyliform or fatty, due to emulsified fat, (*c*) those due to some opalescent substance unknown. They describe a case of the third variety of uncertain origin. Operation was performed and drainage was made into the thigh by means of silk threads. The result was excellent. Gaudin has reviewed the whole subject and gives a complete bibliography of 281 cases up-to-date in a paper "Patogenese und Klassification der milchartigen Ergüsse" ('Ergebn. d. inn. Med. u. Kinderh.,' 1913, XII, p. 219). F. R. B. ATKINSON.

Intestinal obstruction due to thread-worms (*'Prag. Med. Woch.,'* 1914, XXXIX, *p.* 197).—**Doberauer** operated on a boy, aged 9 years, for intestinal obstruction of three days' duration. Twenty-one worms were found in the distended portion of the ileum close to the cæcum. The ileum was opened and sutured. Complete recovery promptly followed. Santonin given subsequently brought away three worms by the anus and two by the growth. The presence of worms was suspected owing to the child's appearance before operation. Santonin should be always given after operation to remove worms from other parts of the tract than the site of operation.

M. D. EDER.

Thread-worms in relation to appendicitis (*'Practitioner,'* 1914, XCII, *p.* 657).—**H. Lett** classifies thread-worms in the appendix into four groups: (1) Cases in which no symptoms are present. (2) Cases in which there is no acute attack but pain is complained of in the right iliac fossa from time to time. (3) Acute attacks "thread-worm appendicitis." The child is not nearly so ill as is to be expected from the examination of the abdomen. The rigidity is not so marked as in general peritonitis. The pulse is no quicker than could be accounted for by the rise of temperature. (4) Cases presenting the typical features of severe appendicitis. The results of operation in the first three groups are distinctly good. In the fourth the prognosis depends on the condition found at operation, and on the day of the attack, on which operation is performed. F. R. B. ATKINSON.

Ascaris lumbricoides as a complication of a surgical operation (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 1953).—**Mary D. Allen** states that in Persia nearly every person, whether child or adult, harbours several if not scores of ascarides. A Jewish girl, aged 16 years, married, was admitted to hospital with symptoms of right pyosalpinx, but operation was only allowed as a last resource. Ascaris eggs were present in the stools and on that account 3 gr. of santonin were given before the operation, but up to the time of operation no worms were passed. On opening the abdomen the peritoneum was found to be markedly thickened and when it was incised 2 qts. of foul-smelling pus were evacuated. The uterus was at the bottom of the cavity, small and adherent to the intestines. The right tube and ovary were tied up in a mass of adhesions to the right of the cavity and no attempt was made to free them. The cavity was irrigated and the incision closed and drained above. During the subsequent four weeks the full-sized living worms were found at intervals either under the dressings or in the cavity, while numerous others were passed by the rectum. At no time was there any suggestion of a fæcal odour in the pus or signs of a fæcal fistula.

The patient died two months after the operation with phlegmasia alba dolens of the left leg. No post-mortem was apparently made. How the worms found their way into the peritoneal cavity could not be explained, as in spite of frequent fluid stools no other contents of the intestines escaped. There appears to have been some relation between the doses of santonin which were given and the appearance of the worms in the wound as they were found soon after the drug was administered. The pus was always more abundant on the days that the worms appeared and for several days afterwards. T. R. Whipham.

Congenital atresia of the rectum; a case of atresia ani analis (*'Jahrb. f. Kinderheilk.,'* 1914, lxxix, *p.* 11).—**H. Hilgenreiner** discusses the literature of the subject and describes a case in a child, aged 17 days. He believes that besides the forms at present known of atresia ani perinealis, præscrotalis, scrotalis and suburethralis, another form, not at present described, of atresia ani analis exists, in which the fistulous opening in the anal fossa lies quite close to the closed rectum, and thus appears under the form of congenital atresia of the rectum. F. R. B. Atkinson.

Congenital cyst of the rectum (*'Gaz. hebd. des Sci. Méd. de Bordeaux,'* 1914, xxxv, *p.* 128).—**Petit de la Villéon** removed a rectal cyst from a boy, aged 2 years, which had been present since birth; there was also congenital phimosis. Congenital cysts of the rectum are very rare.
F. R. B. Atkinson.

Three cases of hydatid cyst of the liver in children (*'Gaz. hebd. des Sci. Méd. de Bordeaux,'* 1914, xxxv, *p.* 219).—**H. L. Rocher.**—*Case* 1.—Boy, aged 14½ years. Operation under local anæsthesia with novocain and cocaine. Recovery. *Case* 2.—Boy, aged 9½ years. Accustomed to play with a dog which later died of hydatid cysts. Purulent right pleurisy developed nearly a month after operation. Recovery. *Case* 3.—Girl, aged 8 years. Post-operative scarlatina. Recovery.
F. R. B. Atkinson.

Hydatid cyst of the liver in a young girl, aged 11 years (*'Arch. de Méd. des Enf.,'* 1914, xvii, *p.* 364).—**Mlle. Condat.**—Operation removed ½ pint of hydatid fluid from the cyst. Recovery took place.
F. R. B. Atkinson.

Congenital hernia of the diaphragm (*'Prag. Med. Woch.,'* 1914, xxxix, *p.* 131).—**Doberauer** regrets that attention is not more often directed to the diagnosis of these cases; by thorough physical examination and X-rays he is convinced that many cases could be discovered and treated surgically. He records a case of death in a girl, aged 18 years, who died just on admission. She had been 8 days ill with a diagnosis of gastric ulcer. Post-mortem showed congenital hernia of the diaphragm, the stomach enormously distended, and the transverse colon and the mesentery in the left thoracic cavity. The left lung was compressed, and the heart and blood-vessels much displaced and compressed. Investigation showed that at the age of four there had been an attack similar to the one from which she died and another one some years later. Had the condition been thought of at the age of four a plastic operation could have been carried out.
M. D. Eder.

A case of strangulated diaphragmatic hernia (*'Austral. Med. Gaz.,'* 1914, xxxv, *p.* 249).—**W. M. A. Fletcher** was called to a child, aged 2 years, and found him dead. Post mortem the heart was found under the right ribs, the heart region being occupied by the stomach, pylorus and some omentum.

F. R. B. Atkinson.

Right inguinal hernia of the ovary and tube (*'Journ. Amer. Med. Assoc.,'* 1914, lxii, *p.* 451).—**A. S. Barr** reports the case of a girl, aged 12 years, who for some years had had a rupture for which she wore a truss. The hernia had always been easily reduced, but one day while not wearing her truss she coughed and a swelling appeared in the right inguinal region which could not be returned. At the operation the sac was found to contain the right ovary and tube, but no bowel or omentum. The patient made a good recovery.

T. R. Whipham.

Strangulated tubo-ovarian hernia in an infant (*'Journ. Amer. Med. Assoc.,'* 1914, lxii, *p.* 772).—**A. B. Eustace** and **R. W. McNealy** report the case of a coloured infant, aged 6 months, who had been ruptured since soon after birth. The hernia, which was a right inguinal one, became strangulated and at operation was found to consist of a twisted tube and ovary. These were resected and the child made a good recovery.

T. R. Whipham.

Infantile paralysis: its surgical treatment (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 1705).—**E. P. Magruder** presents a preliminary report on a case of infantile paralysis which attacked a boy at the age of 6 months, leaving the right leg completely paralyzed. At 3 years of age, when the patient was seen, the leg was in a state of complete flaccid paralysis; the thigh hung limp from the hip-joint with slight flexion of the knee; there was talipes equinus and a marked difference in the measurement of the two limbs. The reflexes in the right leg were absent, and with the exception of slight tonicity of the biceps the loss of power seemed complete. When the child stood on the sound leg there was marked external rotation of the right thigh and eversion and abduction of the leg and foot. The capsule of the hip-joint was quite relaxed, and the head of the femur swung freely, partially without the acetabulum. The technique pursued consisted of the transplantation of the biceps tendon into the patella and a double fixation at the ankle-joint by means of three screws. With the foot in the corrected position at right angles to the leg, one screw was passed through the external malleolus, astragalus and calcaneus, another through the internal malleolus almost at right angles to the first, while a third screw was passed through the scaphoid and cuboid, fixing the key of the arch to the foot. The head of the femur was returned to the acetabulum and a plaster-of-Paris cast snugly applied from the foot to the costal margins and allowed to remain on for six weeks. The wounds healed by first intention. Passive motion and massage were then instituted, and the weight of the body gradually applied to the foot, now firmly fixed at the ankle-joint. Minute instructions were given to the mother as to the training of the child to walk, and as an aid to this end a simple device of the foot-bridge effect, with hand-rails, was built outdoors close beside the house for daily exercise. The child held to the rails while his feet were, in the beginning, picked up and carried forward in the earliest attempts to walk. Two perfectly straight strings were laid on the ground between the rails, on

which the child's feet were placed, so that he might be taught, so far as possible, to walk straight from the beginning; this was intended primarily to overcome the external rotation of the thigh, eversion and abducted foot-effect. The power of the biceps soon manifested itself, changing its action from flexion to a very slight extension of the leg. The foot held firmly in the right-angled position. Improvement at first was very slow, and at times discouraging, but progress has continued steadily and without retrogression to date. The gain in strength to the leg, the increase in size of practically all the muscles, the marked growth of the child and the improvement of his mental and physical condition have been most gratifying. He can walk short distances, 50 feet, without any assistance whatever. He can stand the weight of his body on the affected leg without its buckling beneath him. The external rotation of the thigh, with its eversion and abduction effect on the leg and foot, still persists, but as yet no attempt has been made to correct this further than by the use of a little adhesive plaster running from the thigh above the knee on one side across to that of the other which serves as a temporary correction of the deformity. It gives him a wider base on which to walk and stand. T. R. Whipham.

A new operative treatment for spastic paralysis (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, *p.* 1982).—**W. Sharpe** and **B. P. Farrell** find that the usual operation undertaken to improve the condition of spastic paralysis, viz. tenotomies, tendon lengthenings, sections of the posterior nerve-roots, nerve resections, etc., are of only temporary benefit, the spasticity returning in some degree within a year. They advise, therefore, that in those cases of spastic paralysis of the hemiplegic, paraplegic or diplegic type, with a definite history of difficult labour with or without the use of instruments, in which, on ophthalmoscopic examination, signs of intra-cranial pressure are shown in the dilated retinal veins and a blurring and haziness of the optic discs, especially of their nasal halves, a large right subtemporal decompression should be performed to relieve the intra-cranial pressure. If the intra-cranial pressure is extremely high and remains high after operation, a left subtemporal decompression is performed the following month, the operative recovery requiring only a week to ten days. The usual findings are definite cystic formations resulting from a cortical hæmorrhage occurring at birth. The decompression operation is performed merely to offset the effects of the pressure of this hæmorrhage with cystic formation, and the resulting spasticity and mental impairment. The after-treatment consists in the correction of deformities by tendon lengthenings or stretchings of the contracted muscles, the maintenance of corrected positions through the employment of especially adapted and properly fitting braces, and skilled massage in conjunction with short applications of galvanism and faradism, particular attention being given to the weakened and overstretched muscle groups. A careful, systematic course in muscle training is carried on daily. The authors have operated upon a series of twelve cases and find that improvement has been marked. Not only has the spacticity been lessened, but a definite amelioration in the mental condition of the patients has been brought about. T. R. Whipham.

Multiple hereditary osteogenic exostoses (*'Arch. de Méd. des Enf.,'* 1913, xvi, *p.* 692).—**Cazal** describes in detail the occurrence of multiple exostoses in a boy of five, varying in size from a pea to a horse-chestnut, and situated on the ribs, the scapulæ and juxta-epiphyseal regions of the long

bones. The skull, face, sternum, vertebral column and pelvis were not involved. The left ulna had a large exostosis on its lower extremity, causing considerable incurvation of the radius. The left ulna was 6 cm. shorter than the right. The hand was completely pronated, supination being impossible. These exostoses were painless, mostly sessile, but a few were pedunculated. They were first noticed by the mother on the left ulna when the child was 14 months old. The boy was small for his age, but began to walk and cut his teeth at the normal time. The mother was very small, walked late, and had four exostoses on the lower limbs. The maternal grandfather also developed large tumours at the site of an old fracture. Exostoses diminish the growth of the bones from which they spring, owing to premature fracture of the epiphysis with the diaphysis. They are due to errors of bony growth, and were not, in this case at any rate, connected with rickets. CHRISTOPHER ROLLESTON.

Otology, Rhinology and Laryngology.

Danger signals in suppuration of the middle-ear (*'Clin. Journ.,'* 1914, XLIII, *p.* 311).—**H. A. Kisch** gives the danger-signals for interference in acute suppuration as: (*a*) temperature over 101° F.; (*b*) non-subsidence of pain and tenderness and temperature after paracentesis or natural rupture of the tympanic membrane; (*c*) facial paralysis; (*d*) vomiting, giddiness, and tenderness; (*e*) early optic neuritis. In chronic suppuration: (1) diminution of discharge with attacks of pain; (2) non-diminution of discharge after careful treatment; (3) factor of discharge; (4) headache; (5) deep tenderness over the mastoid; (6) deep pain in the ear; (7) sudden increase in deafness; (8) diminution of bone conduction; (9) vertigo and tinnitus; (10) early optic neuritis. MACLEOD YEARSLEY.

Middle-ear complications of measles in immigrant children (*'Am. Journ. Dis. Child.,'* 1914, VIII, *p.* 147).—**H. C. Cody.**—From June, 1911, to December 1, 1913, 1769 cases of measles were admitted to the Contagious Diseases Hospital at Ellis Island. The average age of the patients was 4·81 years. 321 or 18·2 per cent. developed middle-ear disease, and 29 or 1·6 per cent. mastoid disease. The onset of otitis occurred most frequently after the rash had disappeared. In nearly all cases it was sudden and accompanied by little or no pain. Bacteriological examination showed preponderance of *Staphylococcus aureus.* In some a bacillus (probably Hofmann's) was found. In cases where a streptococcus appeared the attack was more severe. Treatment consisted in keeping the ear clean by frequent and copious irrigations of 1 in 10,000 mercuric chloride solution made up in normal saline. J. D. ROLLESTON.

Mastoid complications of suppurating ear (*'Austral. Med. Journ.,'* 1914, III, *p.* 1473).—**J. Murphy** describes some cases of mastoiditis, and amongst them one in a child, aged 14 months, which ended successfully after removal of the pus. F. R. B. ATKINSON.

Laboratory aids in the diagnosis of acute mastoid disease due to acute purulent otitis media (*'Med. Record,'* 1914, LXXXVI, *p.* 1).—**Gorham Bacon** discusses skiagraphy, microscopic examinations of the pus, and daily blood examinations to determine the increase or decrease of leucocytosis and what relative changes are taking place in the cell percen-

tage. X-ray plates are of value as showing the presence of abnormal mastoid conditions and of anatomical relations. Histological examination of discharge is also valuable. Out of 5496 such examinations, 26·6 were mixed, 24·8 per cent. were streptococci, 12·2 per cent. were pneumococci, 7·4 per cent. staphylococci, 4·8 per cent. showed *streptococcus mucosus capsulatus*, and 1·8 Vincent's spirillum. The remaining 22·4 per cent. were miscellaneous, negative, etc. (*B. pyocyaneus, B. tuberculosis, B. diphtheriæ, B. coli communis*, etc.). The author considers that *S. mucosus capsulatus* is the most insidious germ to deal with. MACLEOD YEARSLEY.

Temporo-sphenoidal abscess secondary to chronic suppurative otitis media; operation; recovery; radiograph findings (*'Cleveland Med. Journ.,'* 1914, XIII, *p.* 482).—**J. M. Ingersoll.**—A boy, aged 14 years. Left otorrhœa three years, with cholesteatoma. The surgeon was able to recognise and outline fairly accurately the brain abscess by means of stereoscopic radiographs. MACLEOD YEARSLEY.

The deaf child and his education (*'Cleveland Med. Journ.,'* 1914, XIII, *p.* 485).—**Grace Burton.**—This is a useful and straightforward paper and is important to the medical profession in that it emphasises the gross ignorance shown by some of its members in all that concerns the deaf and especially the semi-deaf child. MACLEOD YEARSLEY.

The progress of education of the deaf and dumb and some of the difficulties of aural instruction (*'Med. Record,'* 1914, LXXXV, *p.* 921).—**Pocock van Baggen** gives a good *résumé* of the progress of deaf education and details of his own methods in reply to the question, "How can we best awaken and improve the hearing power of deaf children?" Like all those who are truly interested in deaf education, he insists that instruction cannot begin too early. MACLEOD YEARSLEY.

Deaf-mutism (labyrinthine deafness) as a result of purpura hæmorrhagica (*'Journ. Amer. Med. Assoc.,'* 1914, LXII, *p.* 1723).—**G. W. Stimson** reports the case of a girl, aged 4 years, who was normal in every respect until she reached the age of 23 months, when she had an attack of purpura hæmorrhagica. A day or two later "she went stone deaf and has remained so ever since." The deafness is absolute, her attention not being attracted by any noise, however loud. Tuning-forks placed on the vertex and mastoid processes produce no perceptible change of expression. Speech has been progressively lost and now amounts only to an almost unintelligible "mamma." The diagnosis is labyrinthine deafness due to severe hæmorrhage into both labyrinths at the time of the purpura hæmorrhagica, causing complete disorganisation of the parts from pressure.
T. R. WHIPHAM.

Five hundred examinations of the nose and throat in an institution for delinquent boys (*'Med. Record,'* 1914, LXXXV, *p.* 480).—**Max Toeplitz** gives an interesting summary of the Hawthorne School for Jewish Boys in New York. Some 59⅓ per cent. of tonsils and adenoids requiring operation occurred. Apparently the surgeon was interfered with on account of the large percentage of operations needed. MACLEOD YEARSLEY.

The involution of the naso-pharynx and its clinical importance (*'Amer. Journ. Med. Sci.,'* 1914, CXLVIII, *p.* 61).—**Sohier Bryant** postulates

the vulnerability of the naso-pharynx as due to three causes: man's assumption of an upright position, the growth and development of the brain, and the retrograde metamorphosis of the nose, face and teeth of man. The space is of supreme importance because (1) in many diseases the primary symptom is found therein; (2) the secondary symptoms are traceable from the naso-pharynx; (3) its management controls the distant manifestations of the disease; (4) the individual's immunity from disease is in direct proportion to the resistant power of the naso-pharynx; and (5) man is more subject to air-borne diseases than quadrupeds. The evolution and involution of the naso-pharynx are then discussed and the author concludes with a partial list of the diseases which are acquired *viâ* this space.

MACLEOD YEARSLEY.

Malignant tumours of the pharynx in the child (*'Rev. hebd. de Laryng.,'* 1914, I, *p.* 449).—**L. Jeanneret.**—Primary malignant tumours of the oro-pharynx are very rare in the child. The tonsils are the usual starting point, less frequently the soft palate, and rarest of all the pharyngeal walls. Incompletely developed sarcomata are the most frequent type. Alveolar sarcomata and rhabdomyo-sarcomata are rare. Carcinomata are very rare. All tumours of the oro-pharynx in the child have a very rapid course and an absolutely bad prognosis. When symptoms have appeared surgical interference is useless, as a rule, because it is too late. Jeanneret has collected fourteen cases from literature in patients aged from 3 months to 18 years, and two original cases, one of a carcinoma of the pharynx in a boy, aged 6 years, which invaded the naso-pharynx and soft palate, and the other of a congenital sarcoma of the pharynx in an infant of six weeks with metastasis in the lungs, intestine, liver, kidney, and muscles. The ætiology was obscure, as there was no heredity or history of trauma in pregnancy.

J. D. ROLLESTON.

Adenoids and appendicitis (*'Thèses de Paris,'* 1913–1914, *No.* 396).—**E. A. Leblau.**—A certain number of cases of adenoids develop symptoms of muco-membranous colitis or appendicitis. Careful intestinal examination should therefore be made, especially of the colon and appendix in every case of adenoids. The infection appears to originate in the naso-pharynx, and reaches the lymphoid tissue of the intestine either by the swallowing of muco-pus or by the blood-stream. Follicular colitis is then set up and finally the infection is localised in the closed follicles of the appendix. The thesis contains the histories of fifteen cases in patients aged from 3 to 21 years.

J. D. ROLLESTON.

The lingual tonsils in health and disease (*'Journ. of Ophth. and Otolaryng.,'* 1912, XVIII, *p.* 362).—**J. H. Johnson** suggests: (1) That the lingual tonsils are glandular organs and secrete lymphocytes; that they lubricate the surface, and while in a normal condition are important organs of protection. (2) That the simpler throat affections require the vital organs to be carefully guarded. (3) That of the extra-pulmonary causes of cough the glosso-epiglottic space is undoubtedly the most frequent, and unless that portion of the respiratory track be examined as it should be in every case of cough, serious errors in diagnosis must ensue. (4) That numerous reflexes result from diseased lingual tonsils and lingual varix, which are greatly helped or cured by proper treatment. (5) That the

lingual tonsils may become diseased or changed from organs of protection to organs of infection, and when they become such they should be removed.

MACLEOD YEARSLEY.

Hæmorrhage following tonsillectomy (*'Boston Med. and Surg. Journ.,'* 1914, CLXX, *p.* 525).—**F. E. Garland** and **D. C. Greene.**—This is more often venous than arterial. It may be described as an ooze, and may lead to death without any of the text-book symptoms of hæmorrhage. To prevent this careful inspection of the throat should be made at intervals after operation. A danger signal which occurs at the beginning of the bleeding is the formation of a clot in the fossa above the bleeding point. As soon as this occurs ether should be re-applied at once and the pillars sutured.

J. D. ROLLESTON.

Grass-stalk in bronchus; transverse tracheotomy and broncho-scopy (*'Lyon Méd.,'* 1914, CXXII, *p.* 681).—**M. Sargnon** showed a boy, aged 5½ years, at the Soc. des Sci. méd., who had suffered from attacks of dyspnœa and cough for five months. There was a history of having "swallowed" a tuft of dry grass. The case was interesting owing to the difficulty of diagnosis. The pulmonary signs were uncertain and the X-rays only showed inflammatory lesions round the foreign body, which was itself invisible. Remarkable also was the extreme tolerance of the lung for a foreign body which was continually pricking it and was probably causing the attacks of coughing. It was curious that it had not been expelled, but bronchoscopy explained the reason by showing a constriction due to a swelling produced by the foreign body. Extraction was difficult owing to the brittle nature of the grass. Tracheotomy proved very useful. This operation performed under novocaine and with transverse incision is free from danger. Five bronchoscopies under general intermittent anæsthesia were well borne. The longest examination lasted an hour. Usually children's bronchoscopes after Brunings' model are furnished with too small lateral respiratory orifices causing partial asphyxia during the operation, which is particularly annoying when a general anæsthetic has to be used. The author has increased the size and number of these orifices, and the child was able to breath more satisfactorily.

VINCENT DICKINSON.

Reviews.

THE DISEASES OF CHILDREN. Edited by Dr. M. PFAUNDLER and Dr. A. SCHLOSSMANN. English Translation edited by Dr. H. L. K. SHAW and LINNÆUS LA FÉTRA. Vol. VI. By Dr. ARTHUR J. BEDELL. Pp. XV + 430, with 130 illustrations, 9 full-page insertions in colour and black, and 18 coloured text illustrations. Philadelphia and London: J. B. Lippincott Company. Price 21s. net.

A SPECIAL character is imparted to the affections of the ear by the many peculiarities of childhood, giving rise to pathological pictures particularly their own. Hitherto no special work has been published upon pædiatric otology, a subject usually dismissed somewhat briefly in text-books upon diseases of the ear. Such a volume has been long overdue, and the description

which Dr. Arthur Bedell has given to the specialist in the diseases of children should therefore be most welcome did it come up to the expectations offered by its size and title.

The anatomy of the ear is first dealt with, the description being lucid and much assisted by good illustrations, some of them in colour. This is followed by a section on physiology, less adequate, since Helmholtz's theory is practically the only one discussed, and very superficially at that. The part dealing with the physiology of the static labyrinth also might have received better attention. Clinical examination follows, but in this part the author either does not seem to realise that he is dealing with infants and children or has failed to meet with difficulties in his aural pædiatric practice. It is scarcely wise, for example, to advocate the Valsalva method of inflation for children. Much of the section on functional hearing testing is excellent, but here again the author does not appear to appreciate the many practical difficulties that arise in testing the hearing of children; indeed, the section is more suited for a text-book of adult otology. The same applies to the description of the examination of the vestibular apparatus.

The diseases which affect the auditory apparatus are then taken in order, beginning with those of the external ear. In dealing with rupture of the membrana tympani and its effect upon the hearing, the question of concomitant concussion is not given sufficient prominence. The section on acute inflammation of the middle ear in infants and young children is good. Over two pages are devoted to the artificial drum, an appliance not often judicious for children. The author states that he is "in the habit of using soft rubber caps which the patient can himself insert or remove with a forceps," a remark which, however useful such a method may be in some adult cases, does not seem very apposite or wise in regard to children. Otosclerosis is well handled, and from the description given it may be gathered that the author concludes that a considerable number of cases begin in childhood.

The passages upon congenital deafness do not convey very clear ideas upon the subject, and, judging from his remarks, it is doubtful whether the author has had any great experience in deaf-mutism, so-called. No mention is made of the more important recent work on this highly important subject, and it is surprising to find no reference to Kerr Love's monumental and valuable researches. England is described as being "the country which takes the best care of its deaf-mute children."

The book, which is well printed and well illustrated, is excellent in many respects, but it gives the impression throughout of being rather a general otological text-book with special reference to ear disease in children than one the chief object of which is pædiatric otology. It therefore falls short of the promise which it gives of supplying a special want. M. Y.

Le Traitement des Sténoses Aiguës du Larynx. By Dr. Guillermo Zorraguin. Paris: Vigo Frères, 1914. Pp. 45, with 7 figures. Price 2 francs.

In this small but important work the author studies intubation and tracheotomy, and shows that both are serious procedures, pursuing his study with fresh clinical and experimental arguments. He suggests the problem: To re-establish in stenoses of the larynx normal conditions of respiration, to set up simultaneously with inspiration a positive intra-pulmonary air tension to expiration by safeguarding the lungs, heart, arterial tension, etc. To preserve the primitive action of the glottis in

respiration, to restore expectoration, cough, and voice, to isolate initial lesions and limit laryngeal exercises. He solves the problem of tracheotomy with a tracheal valve. M. Y.

Appendicitis: a Plea for Immediate Operation. By Edmund Owen, F.R.C.S., Surgeon to the French Hospital; Consulting Surgeon to St. Mary's Hospital and to the Hospital for Sick Children. 1914. Bristol: John Wright & Sons, Ltd. Pp. 214. Price 3s. 6d. net.

In the early part of the year 1913 Mr. Edmund Owen read a paper before the Medical Society of London advocating immediate operation in case of appendicitis as soon as a diagnosis had been made, and in the discussion which followed all the speakers held the same view. The present book is an elaboration of Mr. Owen's original paper, and although he does not claim to have written a complete essay on appendicitis, he has, nevertheless, dealt with the subject in a full and very able manner. There appears to be still two schools of thought as to the treatment of the disease in question, the one favouring, in apparently mild cases, a conservative and expectant plan, and the other insisting upon operation with as little delay as possible when once the condition has been recognised. The author is well known as a champion of operative measures in these cases, and he here sets forth his views in a characteristically forcible way, laying stress on the dangers of procrastination and the hidden possibilities which may attend a so-called mild case of the disease. Especially does he emphasize the danger of appendicitis in children: in them the disease may go unsuspected, and on account of their less resistance it is liable to run a severe course. In children, therefore, early operation is even more necessary than in adults. Mr. Owen maintains that appendicitis ought to be diagnosed and operated upon before the so-called classical symptoms of the disease have had time to arise, as they are really the signs of a local peritonitis, and to wait for their appearance before operating is merely to court disaster. These views are reiterated throughout the book, and the author will not fail in his endeavour from want of rubbing it into the reader. No other term will adequately express his method.

In addition to his special plea for immediate surgical proceedings, the writer also deals with the wider aspects of appendicitis, and in addition to its pathology and diagnosis he describes in detail the operative measures for aseptic and septic cases. The after-results of operation and the complications of appendicitis are also touched upon. In speaking of the causation of the disease, an interesting theory is advanced that it may possibly be found in the germ-laden road dust which is stirred up by motor traffic.

Mr. Owen's book should be read at least once by every medical man who has any doubt as to what course to pursue in cases of appendicitis, as it embodies the modern views on the subject, and cannot fail to afford much food for reflection. T. R. W.